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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,367	11/15/2000	Rainer Karer	0775/000003	6131

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EXAMINER

NECKEL, ALEXA DOROSHENK

ART UNIT PAPER NUMBER

1764

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,367

Applicant(s)

KARER ET AL.

Examiner

Alexa D. Neckel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 25, 2005 has been entered.

Drawings

2. The drawings were received on October 25, 2005. These drawings are acceptable.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-4, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen et al. (6,113,862)

With respect to claims 1 and 3, Jorgensen et al. disclose an apparatus comprising:

a reactor (1) in the form of a vertical tube (see figures 1 and 2) with a region of transition (area below 2) in the lower section of the tube, followed by a reaction zone (2a and 3a) which is followed by a calming zone (4);

a recycle (circulation) line (5) with a compressor (6) and a heat exchanger (7);

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a grid (gas distributor plate) (2) in the lower section/region of transition of the reactor (1) wherein more than 20% of the surface area is open space (col. 4, lines 20-23); and

wherein there is no internal heat exchanger in the reactor (see figure 1).

With respect to claim 2, there is no distributor plate in the immediate area where the recycle line (5) connects to the reactor (1).

While Jorgensen et al. does not specifically disclose wherein the primary distributor plate (2) has orifices which occupy more than 50% or 90% of the surface area, Jorgensen et al. does disclose that the fraction of the primary grid which can be open can be adjusted (col. 5, lines 36-39) and that different pressure drops are achieved by varying the openings of the grid. In stating such, Jorgensen et al. establishes that the percent of grid open surface area is a result effective variable. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the open area of the primary grid (2) of Jorgensen et al. to obtain desired operational conditions (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

With respect to claim 4, Jorgensen et al. discloses wherein the grid comprises evenly spaced openings (col. 6, lines 60-63) of the same size with flow deflectors (col. 5, lines 63-66) and as such, would inherently bring about a substantially homogeneous introduction of gas flow into the bed.

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With respect to claim 6, Jorgensen et al. disclose wherein the reactor diameter can be between 2.4 and 5 m (col. 5, lines 18-19).

With respect to claim 10, Jorgensen et al. further discloses wherein the recycle gas may be passed through a cyclone separator prior to being introduced to a compressor (col. 7, lines 1-16).

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen et al. (6,113,862) in view of Lubbock (2,636,712).

With respect to claim 7 and 8, Jorgensen et al. fails to disclose a closable flap with holes at the region of transition (where the circulation inlet enters the reactor).

Lubbock teaches a slide valve (equivalent to a flap) with orifices (col. 2, lines 18-28) used to control the flow of solids in suspension (col. 1, lines 1-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the slide valve of Lubbock in the area where the circulation gas inlet (9) and the reactor (1) connect in order to control the amount of particles which would fall through the grid and into the circulation line (col. 2, lines 31-39).

With further respect to claim 8, Lubbock fails to disclose a specific size range for the orifices but Lubbock does disclose that the sizes of the orifices are variable (col. 2, lines 18-28). Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the orifice sizes necessary to obtain desired operational conditions (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Response to Arguments

Drawings

The objection to the drawings is withdrawn due to applicant submission of new drawings.

35 USC 102(b)

Applicant has amended the claims to overcome the 35 USC 102(b) rejection in view of Jorgensen et al. As such, a new grounds of rejection has been presented above.

35 USC 103(a)

Applicant argues that only the secondary grid of Jorgensen et al. is disclosed as having open space greater than 50% and that such an amount of open space on the secondary grid does not relate to the open space of the primary grid.

The examiner is not stating that just because the secondary grid can be of a greater open space that the primary grid can be too. Rather, it is the examiner's position that Jorgensen et al. recognizes that the open area of the primary grid can be varied and establishes that the amount of open area is a result effective variable (effecting pressure drop). Jorgensen et al. also discloses wherein the particular pressure drops recited can be varied (col. 5, lines 54-58). As such, it is held that the recognized result effective variable can be optimized by routine experimentation and is an obvious variant of the known invention. Once a particular parameter is recognized

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as a result-effective variable, i.e., a variable which achieves a recognized result, the determination of the optimum or workable ranges of said variable can be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alexa D. Neckel
Examiner
Art Unit 1764

November 14, 2005


ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER